AMENDMENTS TO THE CLAIMS

- At time of the Action: Claims 1-8
- New Claims: 9-20
- After this Response: Claims 1-20

1. (Original) A method for determining height parameters that describe a dynamically varying height of an ambulatory subject based on video analysis of the subject, comprising:

acquiring a sequence of images that collectively captures the gait of the subject;

measuring a dynamically varying height function of the subject based on an analysis of the varying height of the subject in the sequence of images; and

fitting the dynamically varying height function of the subject to a model that describes varying height,

wherein the height parameters correspond to parameters used in the model.

2. (Original) A method according to claim 1, wherein the model represents an ideal variance in height as a sinusoidal function.

3. (Original) A method according to claim 1, wherein the parameters used in the model include a first parameter that describes a baseline height value exhibited by a person in ambulatory motion, and a second value that describes a maximum deviation from the baseline height value.

4. (Original) A method according to claim 1, wherein the measuring of the dynamically varying height function includes:

extracting a series of depictions of the ambulatory subject from a larger body of image information contained within the sequence of images;

defining a series of bounding boxes that enclose respective depictions; and

for each of the depictions, determining a distance between a point midway between the feet of the subject and a top of the depiction's associated bounding box.

5. (Original) An apparatus for determining height parameters that describe a dynamically varying height of an ambulatory subject based on video analysis of the subject, comprising:

logic configured to acquire a sequence of images that collectively captures the gait of the subject;

logic configured to measure a dynamically varying height function of the subject based on an analysis of the varying height of the subject in the sequence of images; and

logic configured to fit the dynamically varying height function of the subject to a model that describes varying height,

wherein the height parameters correspond to parameters used in the model.

6. (Original) An apparatus according to claim 5, wherein the model represents an ideal variance in height as a sinusoidal function.

7. (Original) An apparatus according to claim 5, wherein the parameters used in the model include a first parameter that describes a baseline height value exhibited by a person in ambulatory motion, and a second value that describes a maximum deviation from the baseline height value.

8. (Original) An apparatus according to claim 5, wherein the logic configured to measure the dynamically varying height function includes:

logic configured to extract a series of depictions of the ambulatory subject from a larger body of image information contained within the sequence of images;

logic configured to define a series of bounding boxes that enclose respective depictions; and

logic configured to, for each of the depictions, determine a distance between a point midway between the feet of the subject and a top of the depiction's associated bounding box.

9. (New) A computer readable media having processor-executable instructions, that when executed, direct a computing system to:

generate a sequence of images that collectively captures the gait of a subject;

measure a dynamically varying height function of the subject based on an analysis of the varying height of the subject in the sequence of images;

analyze the dynamically varying height function of the subject to a model that describes varying height, wherein one or more height parameters correspond to parameters used in the model;

extract the one or more height parameters associated with the gait of the subject;

compare the extracted one or more height parameters associated with the gait of the subject to identified gait information corresponding to individuals; and

identify the subject based on the gait of the subject.

10. (New) The computer readable media according to claim 9, further comprising computer-executable instructions that, when executed, direct the computing system to:

extract a series of depictions of the ambulatory subject from a larger body of image information contained within the sequence of images;

define a series of bounding boxes that enclose respective depictions; and

for each of the depictions, determine a distance between a point midway between the feet of the subject and a top of the depiction's associated bounding box.

11. (New) The computer readable media according to claim 9, wherein the parameters used in the model include a first parameter that describes a baseline height value exhibited by a person in ambulatory motion, and a second value that describes a maximum deviation from the baseline height value.

12. (New) One or more computer-readable media comprising computer-executable instructions that, when executed, perform the method as recited in claim 1.

13. (New) A method according to claim 1, wherein acquiring the sequence of images comprises a fronto-parallel orientation.

14. (New) A method according to claim 1, wherein fitting the dynamically varying height function of the subject to the model comprises real-time analysis of the subject's gait in a real-time mode.

15. (New) A method according to claim 4, wherein extracting a series of depictions of the ambulatory subject comprises a cadence of gait and a stride length of gait.

16. (New) A method according to claim 15, wherein the stride length is measured by:

determining a length of distance traversed by the subject and the number of steps that the subject took to traverse the distance, and computing the stride length based on the length of distance traversed and the number of steps.

17. (New) A method according to claim 15, wherein the cadence and the stride length are related to each other by a linear function; and

identifying the subject based on the subject's cadence, stride length, and based on the linear function used to relate cadence with stride length.

18. (New) A method according to claim 1, further comprising:

extracting at least one of the following parametric-derived features from the sequence of images:

cadence of gait;

stride length of gait,

height of the subject;

determining a self-similarity plot based on the sequence of images to provide at least one holistic-derived feature; and

identifying the subject based on the at least one parametric-derived feature and the at least one holistic-derived feature.

19. (New) One or more computer-readable media comprising computer-executable instructions that, when executed, perform the method as recited in claim 17.

20. (New) One or more computer-readable media comprising computer-executable instructions that, when executed, perform the method as recited in claim 18.